85-1217/

The Institute for Research on Public Policy / L'Institut de recherches politiques

Founded in 1972, The Institute for Research on Public Policy is a national organization whose independence and autonomy are ensured by the revenues of an endowment fund which is supported by the federal and provincial governments and by the private sector. In addition, the Institute receives grants and contracts from governments, corporations and foundations to carry out specific research projects.

The *raison d'être* of the Institute is threefold:

- To act as a catalyst within the national community by helping to facilitate informed public debate on issues of major public interest
- To stimulate participation by all segments of the national community in the process that leads to public policy making
- To find practical solutions to important public policy problems, thus aiding in the development of sound public policies.

The Institute is governed by a Board of Directors, which is the decision-making body, and a Council of Trustees, which advises the Board on matters related to the research direction of the Institute. Day-to-day administration of the Institute's policies, programs and staff is the responsibility of the president.

The Institute operates in a decentralized way, employing researchers located across Canada. This ensures that research undertaken will include contributions from all regions of the country.

Wherever possible, the Institute will try to promote public understanding of, and discussion on, issues of national importance, with clarity and impartiality. Conclusions or recommendations in the Institute's publications are solely those of the author and should not be attributed to the Board of Directors, Council of Trustees, or contributors to the Institute.

The president bears final responsibility for the decision to publish a manuscript under the Institute's imprint. In reaching this decision he is advised on the accuracy and objectivity of a manuscript by both Institute staff and outside reviewers. Publication of a manuscript signifies that it is deemed to be a competent treatment of a subject worthy of public consideration.

Publications of the Institute are published in the language of the author, along with an executive summary in both of Canada's official languages.

Selected New Developments in International Trade Theory

Selected New Developments in International Trade Theory

R.J. WONNACOTT

The Institute for Research on Public Policy/
L'Institut de recherches politiques

Copyright © The Institute for Research on Public Policy 1984
All rights reserved

Printed in Canada

Legal Deposit Fourth Quarter
Bibliothèque nationale du Québec

Cover Design: Robert Garbutt Productions

The Institute for Research on Public Policy/
L'Institut de recherches politiques
2149 Mackay Street
Montreal, Quebec H3G 2J2

Canadian Cataloguing in Publication Data
Wonnacott, Ronald J., 1930–

Selected new developments in international trade theory
(Essays in international economics)
Prefatory material in English and French.
Bibliography: p.
ISBN 0-88645-010-1

1. Tariff — Canada. 2. Free trade and protection.
I. Institute for Research on Public Policy
II. Title. III. Series
HF1766.W63 1984 382.7'0971 C84–090149–6

Contents

Foreword vii
Avant-propos ix
The Author xi
Acknowledgements xiii
Summary xv
Abrégé xix

Selected New Developments
in International Trade Theory 1
Introduction 1
Theoretical Studies 1
Previously Unrecognized Costs
of the Canadian Tariff 2
The Waste of Resources in Transporting Protected
Goods within Canada 2
The Cost of Canadian Protection: The Reductions
in Foreign Barriers Forgone 7
Previously Unrecognized Benefits
of the Canadian Tariff 9

Tariff-Induced Canadian Production May Reduce Transport Costs 10
A Canadian Tariff May Raise Future Income, Even Though It Lowers Current Income 12
A Tariff May Transfer Monopoly Rents from the Foreign Country to the Home Country 13
In Imperfect Competition with Differentiated Products, a New Tariff-Induced Product Increases Consumer Surplus and May Therefore Increase Welfare 13
A New Theory of the Employment Benefits from Protection: The Cambridge Economic Policy Group (CEGP) 15
New Theories of Trade 18
The Theory of Intra-Industry Trade: The Importance of Economies of Scale 18
Economies of Scale: How Trade Affects the Distribution of Income between Countries and within Countries 19
Empirical Evidence on the Cost to Canada of Canadian and Foreign Trade Barriers 20
Conclusions: Theoretical Research and Empirical Evidence on the Effects of Trade Barriers 21
Notes 23
Bibliography 27

The Members of the Institute 31
Institute Management 33
Publications Available 35

Foreword

In recent years the applicability and predictions of the conventional theory of trade have come under attack. Many have questioned whether a theory based on differences in factor endowments had relevance to the current global economy. A number of analysts have also shown, in theory, that the traditional conclusion of net welfare losses associated with trade protection does not always hold. Since Canada is a country highly dependent on trade and faces many difficult decisions regarding its trade policy, the question of whether or not trade liberalization offers net benefits to Canadian society is of great national importance at the present time.

In this study, another in the Institute's major research program in international economics, Professor Wonnacott untangles some of the recent theoretical and empirical work on international trade. His objective is to answer the question of whether the conclusions of the earlier studies in international trade that showed net gains to trade have been invalidated by changes in both our understanding of the economics of trade and in the functioning of the global economy. Professor Wonnacott reviews a number of new theories, and he concludes that not only may factor endowments now be less important than economies of scale or other factors in explaining trade, but also, under certain circumstances, that there are new ways for a country to benefit from its own trade barriers. However, while the view about protection may be shifting, Professor Wonnacott demonstrates that when one takes into account economies of scale, product differentiation and foreign protection — particularly foreign retaliation to increased own protection — the conclusion that

emerges from the body of new theories is that the benefits from trade liberalization are larger than traditionally supposed. This conclusion that greater benefits accrue from multilateral trade liberalization than was originally thought, is further supported by a number of empirical studies.

The Institute is fortunate in having been able to draw on the knowledge and long experience of Professor Wonnacott of the Department of Economics at the University of Western Ontario, one of Canada's leading analysts of trade theory and policy. This work, which has been generously supported by the Ford Foundation, will make a significant contribution to the critically important trade-policy debate in Canada.

Gordon Robertson
Past President and Fellow-in-Residence

July 1984.

Avant-propos

On a vivement contesté, au cours des dernières années, l'applicabilité de la théorie classique du commerce ainsi que les prédictions qu'elle a engendrées. D'aucuns se sont demandé si une théorie fondée sur les différences entre les dotations-facteurs était vraiment pertinente a l'actuelle économie mondiale. De nombreux analystes ont aussi démontré, en théorie, que la conclusion traditionnelle voulant que le protectionnisme se solde par des pertes nettes de bien-être n'était pas toujours inévitable. Puisque le Canada est un pays qui dépend du commerce dans une grande mesure et qu'il est appelé à prendre de nombreuses et difficiles décisions en matière de politique commerciale, la question de savoir si la libéralisation offre ou non de nets avantages à la société canadienne revêt en ce moment une grande importance nationale.

Dans cette étude inscrite au vaste programme de recherche sur l'économie internationale de l'Institut, le professeur Wonnacott fait le point sur certains des récents travaux théoriques et empiriques traitant du commerce international. Il cherche une réponse à la question à savoir si l'évolution de notre compréhension des dimensions économiques du commerce et du fonctionnement de l'économie mondiale ont infirmé les conclusions des premières études du commerce international faisant état de bénéfices nets. Le professeur Wonnacott examine un certain nombre de nouvelles théories et conclut que, non seulement, les dotations en facteurs sont peut-être actuellement moins importantes que les économies d'échelle ou d'autres facteurs dans l'explication du commerce, mais aussi que, dans certaines circonstances, un pays peut trouver

d'autres moyens de bénéficier de ses propres barrières commerciales. Malgré cette évolution possible des opinions relatives à la protection, le professeur Wonnacott démontre que, compte tenu des économies d'échelle, de la différenciation des produits et de la protection étrangère — en particulier des représailles de l'étranger en réaction à nos propres barrières commerciales — l'ensemble des nouvelles théories nous incite à la conclusion suivante : les avantages de la libéralisation des échanges sont plus importants que l'on ne le supposait traditionnellement. De nombreuses études empiriques viennent appuyer cette conclusion voulant que la libéralisation multilatérale des échanges procure plus d'avantages qu'on ne l'avait tout d'abord cru.

L'Institut se félicite d'avoir pu bénéficier des connaissances et de la longue expérience du Professeur Wonnacott, du departement d'économie de l'Université de Western Ontario, l'un des plus éminents analystes canadiens de la théorie et de la politique commerciales. La présente étude marque un apport significatif au débat crucial qui entoure la politique commerciale au Canada.

Gordon Robertson
Ancien président

Juillet 1984

The Author

Ronald J. Wonnacott received a B.A. in honours economics from the University of Western Ontario, and an A.M. and Ph. D. from Harvard University. He has taught at the University of Western Ontario since 1958, except for brief periods, such as a year of teaching and research at the University of Minnesota.

Professor Wonnacott has written a number of articles on trade policy, as well as a number of books, including *Canadian-American Dependence* (North-Holland Press) and *Canada's Trade Options* (Economic Council of Canada). With his brother Paul, he has co-authored *Free Trade Between the United States and Canada* (Harvard University Press). With his brother Tom, he has co-authored several books in statistics, including *Introductory Statistics for Business and Economics*, *Regression*, and *Econometrics* (all three published by John Wiley). He is a former chairman of the Department of Economics of the University of Western Ontario, a past president of the Canadian Economics Association, and a Fellow of the Royal Society of Canada.

Acknowledgements

My intellectual debts, in discussing these issues, are far reaching. Among those who have provided helpful insights are Jim Brander, David Burgess, Joel Fried, Brian Hindley, David Laidler, Jim Markusen, Jim Melvin, Sandy Moroz, and Paul Wonnacott. I add a very special note of thanks to John Whalley. None of these people should, of course, be implicated in the final result.

R.J. Wonnacott

July 1984

Summary

This report describes a number of studies that have thrown new light on the possible effects of protection. In some respects, the Canadian tariff may have been more costly than traditionally supposed; for other reasons, it may have provided benefits not previously recognized.

Previously Unrecognized Costs of the Canadian Tariff

Because it raises the Canadian domestic price, the Canadian tariff has long been recognized as having two effects:

- It causes production inefficiency, to the degree that higher-cost domestic production replaces imports.
- It prevents Canadian consumers from taking full advantage of bargain-priced imports.

A third cost should now be added:

- There is a waste of resources in transporting protected goods around Canada. For example, when the Canadian tariff induces a Vancouver purchaser to buy from Toronto rather than Seattle, unnecessary transport costs are incurred.

Recently, it has been recognized that Canada is subject to an extremely important cost of protection that traditionally has not been adequately taken into account: the cost of trade restraints against our exports by our trading partners — in particular, by the

United States. Thus the largest cost of the Canadian tariff is an opportunity cost: we have not seized the opportunity to use the Canadian tariff to bargain down U.S. protection.

As we now turn to possible *benefits* of the Canadian tariff, we emphasize that all those described below are based on the questionable assumption that Canada can introduce its own protection without inducing a costly foreign protective response.

Previously Unrecognized Benefits of the Canadian Tariff

Under certain special conditions — in particular, that the Canadian tariff has induced production in Canada that has been sold only in the *same* Canadian region — a Canadian tariff may generate enough transport-cost savings to raise Canadian welfare. For example, if the Canadian tariff induces an Oshawa buyer to purchase in Toronto rather than Buffalo, then transport costs are reduced, perhaps enough to raise Canadian welfare. Note that this is quite different from our earlier, more general case, where tariff-induced Canadian production is sold in *any* Canadian region, in which case it is likely that transport costs will increase and welfare decrease.

Although a Canadian tariff damages current Canadian income, it may raise future income by enough to more than compensate for the immediate loss. The reason is that a tariff benefits some people while hurting others; if those who benefit save and invest more, growth and future income will be increased. While this argument is logically correct, it is based on very special assumptions.

Under certain conditions, a Canadian tariff may induce domestic production of a monopolized product, and thus transfer monopoly rents from a foreign country to Canada. If this effect is strong enough, Canadian welfare may increase.

A tariff may induce domestic production of a new brand of a differentiated product. If the benefit to consumers from increased variety is strong enough, welfare may increase.

Other possibilities are also examined. They all add up to an interesting array of special cases in which a Canadian tariff may increase Canadian welfare. However, none of these possibilities disproves the more general proposition that a Canadian tariff will typically, in most circumstances, reduce Canadian welfare — a proposition that holds even more strongly when one recognizes that our tariff may generate a foreign response that damages our exports.

Other New Developments

Recent estimates suggest that the cost to Canada of Canadian *and* foreign protection may run as high as 5–10% of Canadian gross national product; and, in breaking this down, the cost to Canada of foreign protection is estimated to exceed the cost of Canadian protection. A key reason is that the American tariffs and non-tariff barriers that limit our exports to the United States have reduced our ability to produce in volume and thus cut costs by exploiting economies of scale. The recent recognition of the importance of economies of scale has thus led to a major upward revision in the estimates of the costs of protection to Canada.

The recognition of scale effects has also been important because, if these effects are significant, there need no longer be a serious conflict over trade policy between different groups. When there are substantial economies of scale to exploit, all groups may benefit from liberalized trade. Compare this conclusion with previous trade theories that ignored economies of scale and concluded that one major group would gain, while the other would lose.

Abrégé

Ce rapport décrit un certain nombre d'études qui ont jeté un nouvel éclairage sur les effets possibles de la protection. À certains égards, le tarif canadien s'est peut-être avéré plus onéreux qu'on ne l'avait cru; à d'autres, cependant, il a probablement procuré des avantages insoupçonnés.

Les coûts auparavant insoupçonnés du tarif canadien

On a reconnu depuis longtemps que le tarif canadien agit de deux facons dans la mesure ou il provoque une augmentation des prix intérieurs canadiens:

- Il est cause d'inefficacité dans la production des coûts plus élevés de production intérieure et remplace les importations.
- Il empêche les consommateurs canadiens de tirer plein bénéfice des importations à prix réduits.

Le prix à payer revêt maintenant une troisième dimension :

- Le transport des biens protégés au Canada entraîne un gaspillage de ressources. Lorsque, par exemple, le tarif canadien incite un acheteur de Vancouver a s'approvisionner à Toronto plutôt qu'à Seattle, celui-ci engage des frais de transport inutiles.

On a également reconnu récemment que le Canada paie sa protection un prix très élevé, dont on n'avait pas suffisamment tenu compte, soit le prix des restrictions commerciales imposées à nos

exportations par nos partenaires commerciaux et, en particulier, par les États-Unis. Le coût le plus élevé du tarif canadien en est donc un d'opportunité: nous n'avons pas su utiliser le tarif canadien dans les négociations visant à faire réduire la protection américaine.

Avant de passer aux *avantages* possibles du tarif canadien, il importe de souligner que les avantages décrits ci-dessous s'appuient sur l'hypothèse contestable d'un Canada susceptible d'introduire sa propre protection sans s'attirer des représailles trop coûteuses de l'étranger.

Les avantages auparavant insoupçonnés du tarif canadien

Dans certaines conditions privilégiées — en particulier si le tarif canadien avait incité à produire au Canada des biens qui n'auraient été vendus que dans la *même* région — un tarif canadien pourrait générer suffisamment d'économies de frais de transport pour augmenter le bien-être canadien. Si le tarif canadien incitait, par exemple, un acheteur d'Oshawa à s'approvisionner à Toronto plutôt qu'à Buffalo, les frais de transport diminueraient peut-etre assez pour augmenter le bien-être canadien. Remarquez qu'il s'agit-là d'un cas fort différent du cas plus général, mentionné plus tôt, où la production induite par le tarif canadien est vendue dans *n'importe quelle* région du Canada, entraînant du fait même une hausse des frais de transport et une baisse du bien-être.

Même si le tarif canadien porte atteinte aux recettes courantes du Canada, il peut occasionner une augmentation suffisante des recettes futures et compenser amplement les pertes immédiates parce qu'un tarif profite à certains tout en nuisant à d'autres. Si ceux qui en profitent épargnent et investissent davantage, la croissance et les revenus futurs augmenteront. Malgré sa justesse logique, cet argument repose sur des hypothèses bien particulières.

Dans certaines conditions, le tarif canadien peut inciter à produire au pays un produit monopolisé et ainsi transférer les rentes de monopole d'un pays étranger au Canada. Si cet effet est assez puissant, le bien-être canadien peut en être augmenté.

Un tarif peut encourager la fabrication au pays d'une nouvelle marque d'un produit différencié. Si l'augmentation de la variété procure suffisamment d'avantages aux consommateurs, le bien-être peut aussi augmenter.

On examine également d'autres possibilités. Elles offrent toutes un éventail intéressant de cas particuliers où un tarif canadien peut

augmenter le bien-être des habitants du pays. Il reste, toutefois, qu'aucune de ces possibilités n'infirme l'affirmation plus générale voulant qu'un tarif canadien ne réduise habituellement le bien-être des habitants la plupart du temps — affirmation qui vaut d'autant plus quand on reconnait que notre tarif peut provoquer, a l'étranger, une réaction défavorable à nos exportations.

Les autres faits nouveaux

De récentes estimations suggèrent que le prix à payer par le Canada pour la protection canadienne *et* étrangère peut représenter de 5 à 10 pour cent du produit national brut canadien. En distinguant entre ces deux types de protection, on estime que la protection étrangère coûte plus cher au Canada que la protection canadienne, surtout parce que les barrières tarifaires et non tarifaires américaines qui limitent nos exportations aux États-Unis ont affaibli notre capacité de produire en quantité et ainsi de profiter des économies d'échelle. Cette récente reconnaissance de l'importance des économies d'échelle a donc entraîné une révision importante à la hausse des estimations du coût de la protection pour le Canada.

La reconnaissance des effets d'échelle est d'autant plus importante que, s'ils sont significatifs, les différents groupes n'ont plus raison d'avoir de sérieux désaccords au sujet de la politique commerciale. Lorsqu'il est possible de tirer profit d'économies d'échelle substantielles, tous les groupes peuvent bénéficier d'une libéralisation des échanges. Une telle conclusion doit donc être comparée aux théories commerciales antérieures qui ne tenaient aucun compte des économies d'échelle et concluaient qu'un des principaux groupes y gagnerait alors que l'autre y perdrait.

Selected New Developments in International Trade Theory

Introduction

What have we in Canada learned from recent theoretical and statistical studies about how a country is affected by changes in its own commercial policy and the commercial policy of other countries? That is the question addressed in this brief monograph. We begin by assessing some recent theoretical studies of the effects of trade barriers, and conclude by examining the statistical studies of how these effects compare in the Canadian case. While this is by no means a complete survey, it does analyse a number of studies that are of substantial interest from a policy point of view.

Theoretical Studies

Recent theoretical research has, by and large, followed the long-standing tradition of concentrating on the effects of a country's own tariff, rather than on the effects of both its own and foreign tariffs. Some of these studies show that under certain circumstances, a country's own tariff may be more costly than was previously supposed, while others identify reasons why it may be less costly; indeed, even beneficial. Although many of these studies have not been cast in a Canadian context, they may apply to Canada; hence, to be concrete, we describe them in a Canadian frame of reference. One

of the important alleged benefits of a tariff is the competitive advantage it may provide a nation's new, emerging, technology-intensive industries. In a sense, this tenet can be viewed as a variant on the 'infant industry' argument, except that protection for an industry is justified by the externalities it will allegedly generate, in terms of providing the nation with an increased capacity to exploit profitable 'high-tech' opportunities in the future. Since this theory is closely related to the discussion of U.S. reciprocity proposals, it is evaluated in a companion piece on reciprocity.[1]

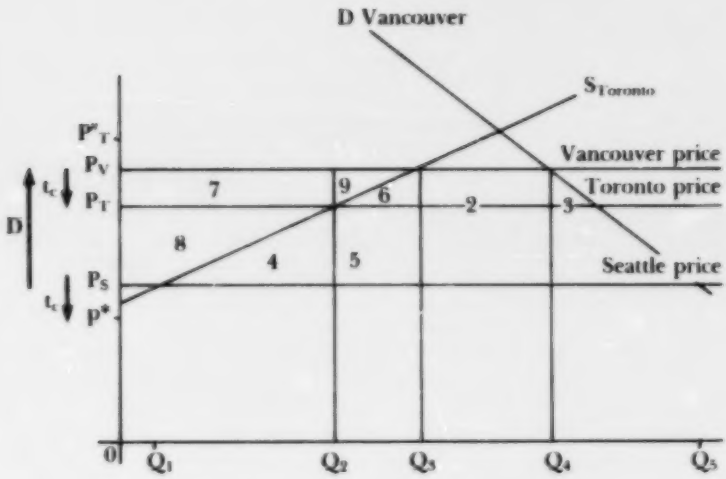
Previously Unrecognized Costs of the Canadian Tariff

The Waste of Resources in Transporting Protected Goods within Canada

In an unpublished paper, Melvin has argued[2] that if consumer preferences in two regions of Canada differ, and if there are transportation costs between regions, then there will be a transport-cost burden of the Canadian tariff. While Melvin assumed a difference in consumer preferences between regions, he did not have to make such an assumption; all that is required — extremely special circumstances aside — to establish that a transport-cost burden will result from the Canadian tariff is that some Canadian production induced by the tariff satisfies consumption in another Canadian region, and that transport costs exist between these two regions.

To illustrate this point as simply as possible, in Figure 1 we consider the extreme example of a hypothetical good which, under free trade, is consumed in Vancouver and produced in Seattle (and which also, if protected, will be produced in Toronto). The Canadian price of this product is determined by a completely elastic supply from Seattle. Suppose that the product's transport costs are essentially zero from Seattle to Vancouver, but are t_c per unit from Toronto to Vancouver. While this is an extreme assumption, it is designed to capture the fact that because of our geography, there are many goods in Canada which can be acquired from a U.S. source at lower transport costs than from a Canadian source. Since there is no Canadian tariff on the product, the Seattle price, P_S, becomes the Vancouver price, and our imports are Q_5.

Figure 1: *The Cost of Protection when Domestic Production and Consumption are in Different Locations*



Case 1: In the face of transport costs t_c, a tariff D has the following effects:

	Transfer from consumers to producers			Transfer from consumers to treasury				
Consumers lose	−7	−8	−4	−9	−6	−5	−2	−3
Producers gain		+8						
Treasury gains				+9	+6	+5	+2	
Net effects	−7 Resource wasted on transport costs		−4 Production loss					−3 Consumption loss

Case 2: If transport costs do not exist or are assumed to be zero, then predicted effects of tariff D will be:

	Transfer from consumers to producers						Transfer from consumers to treasury	
Consumers lose	−7	−8	−9	−4	−6	−5	−2	−3
Producers gain	+7	+8	+9					
Treasury gains							+2	
Net effects				−4	−6	−5		−3
				Production loss				Consumption loss

Key question: How does transport loss 7, in Case 1, compare with additional production losses 5 and 6, in Case 2?

In our example, transport costs t_t prevent free-trade production in Canada because, after paying transport costs, Toronto producers wishing to sell in Vancouver can do so only at the net price P^*, which is insufficient to cover their marginal costs reflected in $S_{Toronto}$. Now suppose Canada imposes a tariff, duty D, which raises the Vancouver price to P_V and reduces Canadian consumption in Vancouver from Q_5 to Q_4. At the same time, this tariff raises the net price to Toronto producers selling in Vancouver (after they pay transport costs t_t) to P_T, thus inducing Q_2 units of protected Canadian output in Toronto. Accordingly, imports are reduced from Q_5 to Q_2Q_4.

Thus Canadian protection has resulted in three efficiency losses:

- Area 3, which comprises the familiar loss to Canadian consumers (who are all assumed to be located in Vancouver) because they reduce their consumption by Q_5Q_4. Consumers can no longer buy, at bargain price P_S, these imports on which they place a higher valuation, as approximated by the height of the demand curve.
- Area 4, which comprises the loss in efficiency on the production (supply) side because we are producing a good in Canada at a higher cost than we could import it. Specifically, Q_2 units of this good are now being produced in Canada at a marginal cost given by the height of the supply curve, instead of being imported at

lower cost, P_S. This is also a familiar loss, but, as we detail below, it is less than the previously recognized production loss of area 4 + 5 + 6.

To these two traditional efficiency losses from a tariff, we now add a third, new one:

- Resources are wasted in transporting this good from Toronto to Vancouver. This cost is shown by area 7, the unit transport cost, t_c, times the Q_2 units thus transported.

In sum, to the degree that a Canadian tariff induces production in Canada to service consumption in a *different* region, as in our example above:

> The Cost to Canada of tariff D is consumption loss 3 + production loss 4 + waste of resources in transporting goods 7.

Thus the existence of transport costs means that we must recognize a third potential efficiency loss resulting from protection: the costs or, in general, the additional excess cost,[3] of transporting protected products across Canada. This conclusion, that there are efficiency losses from protection, is confirmed in the caption of Figure 1, where we also point out the various transfers that result from protection.

The conclusion that there is a transport-cost burden imposed by the tariff, in addition to the two traditional costs, seems to suggest that the total burden of protection is greater than has previously been supposed. But, curiously, this conclusion does not necessarily follow. True, these transport costs are a waste of resources; but the loss that results may be offset by a reduced *production* loss. The reason is that transport costs reduce the *net* price facing Canadian producers in Toronto, and thus reduce the tariff-induced level of inefficient production there.

This point is easy to demonstrate from Figure 1. If there were no transport costs ($t_c = 0$), then the post-tariff price in Toronto would be P_V rather than P_T. Protected Toronto firms would respond to this higher price by producing more: specifically, Q_3 rather than Q_2. Thus the production loss would be 4 + 5 + 6, rather than just area 4; but, of course, there would no longer by any loss of resources from transportation, since transportation costs would be zero. Notice that we are now examining the familiar standard case of two triangular efficiency losses: the loss in consumption efficiency 3 and the loss in production efficiency (4 + 5 + 6). On the other hand,

when transport costs *do* exist, the tariff creates a transport cost loss (7), but less production inefficiency (4 rather than 4 + 5 + 6). It is not clear, therefore, whether the existence of transport costs raises or lowers the total burden of a tariff. The answer to this question depends on how area 7 compares with area 5 + 6.

Past estimates of the costs of protection, using this general approach, have been incomplete in so far as they have failed to recognize lost resources in transportation (area 7). In the Canadian case, with larger transport costs accruing east-west than south-north, this may have been an important omission. But although this omission may have obscured the various sources of loss, it does not follow that it has led to seriously biased estimates. None the less, the effect of protection should, from now on, take transport costs into account, insofar as it is feasible to do so.

Now we must ask: Have these transport resources really been wasted? For political reasons, would we not have built the railroads across Canada in any case? Has tariff-induced area 7 not simply helped to finance a cost that would otherwise have been borne to a greater degree by the Canadian taxpayer? This leads to a different view of the historical role of the Canadian tariff: although it has induced admittedly high-cost production in the East, it has indirectly helped to finance the transport system necessary to build a nation. According to this view, that portion of area 7 that has gone to cover the overhead costs of the railroads need not be viewed as a cost of the tariff; instead, the only burden has been the part of area 7 representing the incremental cost of shipping these goods.

In my opinion, this argument makes considerable sense; but its thrust is directed at the past, not the future. The reason is that the overhead costs of railroad building in Canada have been largely covered, now that the railroads are complete. Therefore, as we look to the future, area 7 will involve a cost after all — the cost of transporting goods across Canada in tariff-ridden patterns. To the degree that much of this shipping is now done by low-overhead trucking, the 'railroad overhead' argument is further weakened.

Finally, to keep this analysis in perspective, we emphasize that it analyses the effects of the Canadian tariff only, on a product in which marginal costs are rising and where there are no economies of scale. If we are examining the effects of both the Canadian and foreign trade barriers in products where there are economies of scale, then an approach quite different from the one shown in Figure 1 is required. This different approach might be similar to the one we used in 1967,[4] or to the one that Cox and Harris have used more recently.[5]

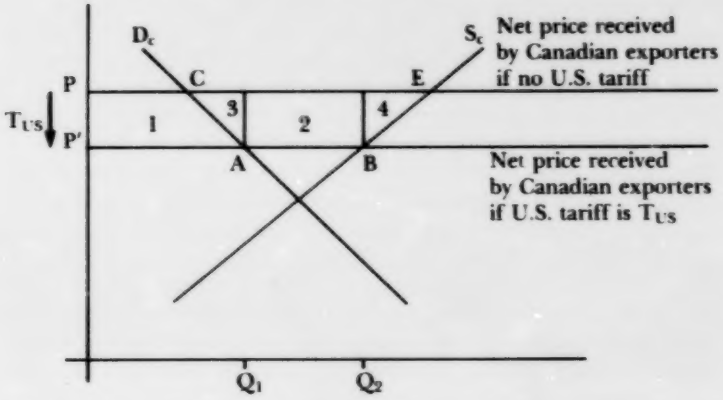
The Cost of Canadian Protection: The Reductions in Foreign Barriers Forgone

An important cost of Canadian protection, including both tariffs and non-tariff barriers (NTBs), is the cost of the higher levels of foreign protection our exporters must face, in particular, in the U.S. market. This is obvious in specific instances where Canada has imposed some form of protection, and the United States has retaliated with a similar restriction on our exports. An example was Canada's formal imposition of a quota on dressed beef from the United States in the late 1970s, which was followed by a similar U.S. quota on Canadian beef. Less obviously, but more generally, the Canadian commitment to protect may have prevented us from using our trade barriers to negotiate down U.S. barriers to our exports. In other words, U.S. protection against our exports is not independent of the level of Canadian protection. To put the same point another way: one of the costs of the Canadian tariff is the cost we face because our exports are reduced by *foreign* tariffs.

What are the costs to Canada of foreign tariffs? Since these costs have largely been passed over in the literature, we illustrate in the simplest possible way, in Figure 2, the cost a foreign — say, U.S. — tariff may impose on Canada. With no U.S. tariff, the price of this Canadian export is determined in the U.S. market at P; Canadian equilibrium output is at E, with CE exported and PC consumed at home. U.S. tariff T_{US} reduces the net receipts of Canadian exporters by this same amount, that is, T_{US}, since these exporters are strictly price takers in the U.S. market. This strong assumption is reasonable enough for most manufactured goods, although it is less tenable for resources. Thus Canadian exporters bear the entire burden of the U.S. tariff. Moreover, P′ becomes the new domestic price in Canada, with P′ B produced, AB exported, and P′ A consumed in Canada. The costs, detailed in the caption to Figure 2, include consumption and production losses 3 and 4, and terms-of-trade loss 2 representing the duty that Canadian exporters must now pay to the U.S. treasury. Thus, to the degree that U.S. protection against our exports is influenced by the level of Canadian protection, area 2 + 3 + 4 may be viewed as an indirect cost of Canadian protection.

In a world of economies of scale, this diagram cannot be applied; but in that case, the cost to Canada of U.S. trade barriers becomes even more transparent. By discouraging Canadian sales in the United States, these U.S. barriers have prevented Canadian exporters — and potential exporters — from achieving the volume

Figure 2: *The Cost to Canada of a U.S. Tariff*



U.S. tariff T_{US} reduces net price received by Canadian exporters — and hence price in Canada — from P to P'. Consequently,

	Transfer from Canadian producers to consumers			
Canadian producers lose	−1	−2	−3	−4
Canadian consumers gain	+1			
Net loss		−2	−3	−4
		Terms of trade loss (transfer to the U.S. treasury from Canadian exporters paying the U.S. duty)	Loss on consumption account	Loss on production account

levels, and hence the cost reductions, that would otherwise have been possible.

We are now in a position to sum up the costs to Canada of its own trade barriers:

- The damage, long recognized in the literature, caused directly by Canadian trade barriers, including production and consumption inefficiency,[6] and a reduced level of competition. To these costs, one should now add the waste of resource in transporting goods across Canada in tariff-ridden patterns.
- Canadian trade barriers also impose a cost because they tend to result in higher foreign trade barriers[7] that in turn reduce our exports.[8] Reduced exports mean higher costs in export — and potential export — industries operating under economies of scale; and even in export industries without such scale economies, there will be losses of the sort illustrated in Figure 2.
- If this Canadian protection is in violation of our Tokyo Round commitments to reduce tariffs, then a further cost could be involved. Such Canadian protection would, at a minimum, tend to erode the semi-voluntary rule of law of the General Agreement on Tariffs and Trade (GATT), on which Canadians depend so heavily for acquiring gains from trade; and it might lead to a GATT judgement against Canada that would allow our trading partner(s) to retaliate against our exports, with more of the costs noted in the second point listed above.
- Protection damages growth because it tends to destroy a necessary condition for growth: the ability of an economy to adjust. Indeed, a prime motive for those seeking protection is to *prevent* adjustment from taking place.

The next question is: How does such a strong case against protection relate to a number of recent theoretical contributions that show how protection may bring a welfare gain?

Previously Unrecognized Benefits of the Canadian Tariff

All of the new theories we now consider should be labelled 'handle with care'. The reason is that, on the face of it, they may seem to the unwary reader to be arguments for protection. Thus such a reader may wonder: Are all the recent studies wrong that have shown welfare gains from Canada-United States trade liberaliza-

tion? (These studies are D. Cox and R. Harris, *Trade Liberalization*; J. Williams, *The Canadian-U.S. Tariff and Canadian Industry*; and R.J. Wonnacott and P. Wonnacott, *Free Trade Between the U.S. and Canada*.[9]) The answer is 'No'. The authors of these studies examined changes in *both* Canadian *and* foreign tariffs. The studies we now consider examine the effects of a change in the Canadian tariff *only*.

In each of these new theories, the possibility of a benefit from the Canadian tariff is established by relaxing one of the standard assumptions which, all taken together, guarantee a loss from the Canadian tariff. But before examining these new theories, note that three sources of possible benefit from a tariff have long been recognized:

- Relaxing the assumption that the home country is a price taker on world markets allows a terms-of-trade benefit, which is the optimal tariff argument.
- Relaxing the assumption of full employment in the domestic economy may allow a country to acquire a benefit from increased employment.
- Relaxing the assumption of perfectly competitive markets may allow a country to increase its welfare by imposing a tariff if this tariff offsets a domestic market imperfection. The traditional 'infant-industry' argument can be viewed as a variant of this possibility: relaxing the assumption of perfect capital markets, it has been argued, leads to a justification of infant protection.

We now turn to the new arguments for protection, in each case noting the explicit or implicit assumption of traditional trade theory that is being relaxed. The first argument involves relaxing the implicit assumption that transport costs are zero.

Tariff-Induced Canadian Production May Reduce Transport Costs

We have already seen, in our discussion of transport costs, above, that a Canadian tariff that induces Canadian production to service Canadian demand in another region will involve a waste of resources in tariff-ridden shipments of goods around Canada. But in a forthcoming paper,[10] R.H. Porter assumes that the Canadian production induced by the tariff satisfies demand *only in the same Canadian region*. He also postulates a set of conditions under which the Canadian tariff, by inducing a switch of some production from foreign sources to much closer domestic sources, could result in a

sufficient saving in transport cost to offset the admitted efficiency losses from the tariff. Thus, the Canadian tariff could, on balance, increase welfare.

To understand this analysis, note, first, that with consumers spread out spatially, transport costs *may* be high enough to protect an otherwise uncompetitive Canadian firm *even in free trade and in an industry with economies of scale*. Porter considers the case where transport costs alone do not give the potential domestic entrant quite enough protection; additional tariff protection is also required. He then identifies the two possible circumstances that will make this tariff increase welfare:

- The exporting U.S. firm may cut its price enough to prevent entry by this new Canadian firm. The benefit to Canada, in this case, is the terms-of-trade gain that comes from the cut in the foreign price. There is no disadvantage in terms of a lost Canadian firm, since this firm did not exist in Canada in the first place. This case might be described as an indirect way for a country that is apparently a price taker to influence its terms of trade after all.
- Alternatively, the U.S. firm does not cut its price, and the Canadian firm is established. Because of the saving in transport costs, this firm may be able to service consumers in its vicinity at a lower price than they previously paid. The resulting increase in consumer surplus may more than offset the losses in consumer surplus that occur elsewhere in the economy where consumers still serviced by U.S. firms must pay a price that is *higher* because of the new Canadian tariff. (This loss is not as large as it may seem because a substantial part of it is simply a transfer from Canadian consumers to the Canadian treasury collecting the tariff.)

  Part of this increase in surplus going to consumers in the vicinity of the new Canadian firm may be extracted by that firm, since it is able to charge a monopoly price. No matter; as long as the firm is domestically owned, it is still a welfare benefit to Canada—provided, of course, that this benefit is not dissipated in monopoly inefficiency.

To keep Porter's analysis in perspective, we re-emphasize two earlier points:

- His study is limited to the special case where tariff-induced production satisfies only its own local market; he is not describing the situation where tariff-induced production in Canada services markets in other Canadian regions as well. (We have seen earlier that in this latter case, a tariff results in a waste of resources on transportation.)

- While Porter is talking about a world of economies of scale, he examines only the Canadian, but not foreign, tariffs. Thus he misses the important role that economies of scale play in the commercial policy debate. His Canadian firms, encouraged by the Canadian tariff and geographic protection, only nick off 'local bits and pieces' of the small Canadian market; but he does not consider the substantial welfare gains that might come from a much broader exploitation of economies of scale by Canadian producers if Canadians could use their tariff to negotiate down U.S. trade barriers.

A Canadian Tariff May Raise Future Income, Even Though It Lowers Current Income

J. Fried and D. Burgess do not contest the traditional view that a Canadian tariff will lower current income.[11] But they relax the implicit assumption in the traditional analysis that a tariff that lowers income now will not increase it in the future. Indeed, they argue that the Canadian tariff may do just that: it may increase future income because it redistributes (the admittedly lower) current income into a higher-growth configuration. Specifically, using an overlapping generations model,[12] they argue that the Canadian tariff results in a reduction in the income of resource owners and a (smaller) increase in the income of the Canadian labour force. This will increase *future* Canadian income if we can assume that the population can be decomposed into a younger-generation labour force, which saves to buy resources for future use, and an older generation, which owns resources and uses up its income and resource holdings to finance its retirement. The tariff that raises the labour income of the younger generation also raises Canada's savings; but, insofar as the tariff reduces the resource income of the older generation, it does not affect savings, since the elderly were not saving anyway. Therefore, on balance, the Canadian tariff increases savings and thus raises future income. Moreover, it may raise it sufficiently to offset the current income loss: that is, it may increase the present value of the Canadian income stream.

The key to this argument is the assumption that the only people who save are those who benefit from the policy change being considered, in this case, the Canadian tariff. But notice that one can justify any policy change that reduces current income if one can make this sort of assumption. Obviously then, this assumption must be critically examined before we give this theory prominence in policy discussion.

A Tariff May Transfer Monopoly Rents from the Foreign Country to the Home Country

J. Brander and B. Spencer[13] depart from the classic world in which own tariff reduces welfare[14] by relaxing the assumption of perfect competition and considering a world in which monopoly exists. Specifically, they consider the case of monopolized foreign firms earning monopoly rents on their output, including, of course, the output that they export to Canada. If Canada imposes a tariff that encourages the establishment of domestic firms in these lines of activity, these firms may be able to capture some of these monopoly rents. It is possible that the resulting trans-border transfer of monopoly rents may be sufficient to provide Canada with a net welfare gain.

Note that in this Brander/Spencer analysis, there is an important analogy to the optimal tariff argument. In the optimal tariff case, a country benefits from an international transfer of income that results if its *government* can exercise monopoly power by imposing a tariff. In the case we are discussing, a country benefits from an international transfer of income if it can set up an *industry* that can exercise monopoly power.[15]

In their analysis, Brander and Spencer describe a Canadian monopolist replacing a U.S. monopolist in the *Canadian* market. In a more recent, unpublished paper, they show how the same sort of Canadian welfare increase may be possible if a new Canadian monopoly is established which then replaces a U.S. monopoly in *third-country* markets.

In Imperfect Competition with Differentiated Products, a New Tariff-Induced Product Increases Consumer Surplus and May Therefore Increase Welfare

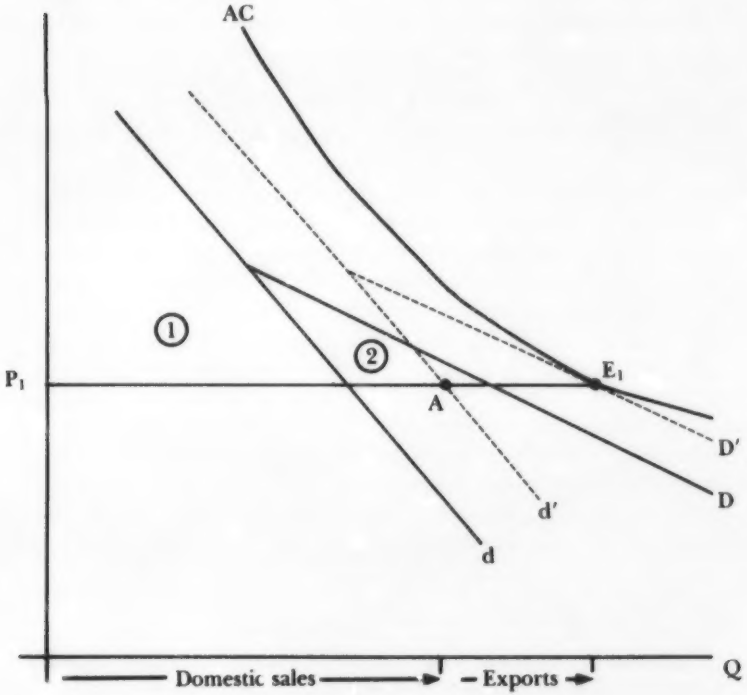
In addition to Brander and Spencer, a number of other authors[16] have also developed international trade models by relaxing the assumption of perfect competition. Instead, they have assumed imperfect competition with differentiated products. (Whereas the spatial transport-cost models dealt with above emphasize how consumers differ in physical location, the models we now consider emphasize how consumers differ in taste and, in particular, in brand preference for a differentiated product.) To illustrate, consider Figure 3.[17] The objectives of this diagram are:

- To show how a Canadian tariff may be welfare-increasing once we move from the perfectly competitive world of homogeneous

products to an imperfectly competitive world of differentiated products

- To illustrate, in certain very special circumstances, the claim by businesses that protection in their own domestic market makes it possible to export.

Figure 3: *Protection Justified by Increased Consumer Surplus from a Differentiated Product*



Suppose that d is the domestic demand for a differentiated Canadian product. If we add foreign demand, after first taking account of how any foreign tariff may reduce this demand, the result is D, the total demand for this Canadian product. This is insufficient to justify production, since D at no point rises to average cost AC. Now impose a Canadian tariff, which raises domestic demand from d to d′, and therefore shifts total demand from D to D′. Notice that this is a 'made to order' tariff, barely justifying production at equilibrium

E_1, a type of Chamberlinian monopolistic competition equilibrium.[18] Thus a Canadian tariff has induced the entry of a new Canadian firm with its own special brand of differentiated product. Because of the volume of its domestic sales (P_1A), this firm is able to reduce its costs enough to export as well (AE_1). In other words, in such a product with economies of scale, a new firm cannot export without the domestic sales that will provide the volume necessary to get its costs down. Of course, we could equally well say that it cannot sell in the *domestic* market without the *export* sales that will provide the volume necessary to get its costs down.

A welfare increase is possible in this model because of the increase in consumer surplus that results when a new brand becomes available.[19] (There is also an increase in consumer surplus in foreign countries, where consumers also enjoy the variety provided by this new Canadian product.)

This example of a product which is socially desirable, but privately unprofitable (without government intervention), runs parallel to Joan Robinson's country-doctor monopolist. She justified a subsidy by recognizing the consumer benefits yielded by a new *product*, the doctor's services. Here a tariff is justified by recognizing the consumer benefits yielded by a new *brand* of an existing product. (It has been shown[20] that under some conditions, a tariff is the preferred form of subsidization; in other circumstances, a direct subsidy is better.)

Although this analysis recognizes the existence of partner's trade barriers, it assumes that these barriers are unaffected by Canada's trade barriers. Thus we must emphasize again: a tariff that is welfare-increasing if partner does not respond may become welfare-losing if partner *does* respond and thus reduces our exports. (Using a domestic subsidy rather than a tariff is no escape if partners countervail.) In evaluating such a policy, this is a more important point for Canada than for larger countries. The reason is that the risks inherent in this policy (that is, the risks of partner retaliation) apply only to export sales AE_1, but not to domestic sales P_1A. For Canada, these exports sales are greater, relative to domestic sales, than they are for a larger country with a big domestic market. In this sense, this policy raises greater risks for Canada.

A New Theory of the Employment Benefits from Protection: The Cambridge Economic Policy Group (CEPG)

Before discussing this new theory, note that possible employment benefits from protection have always been recognized. The standard view has been that protection does two things:

- It distorts resource allocation. For example, it generates the production and consumption inefficiencies already described in Figure 1. Assuming full employment, and setting aside terms-of-trade and infant-industry effects, this reduces real income.
- However, if there is initially a serious problem of unemployment, then protection can increase employment by encouraging the substitution of domestic production for imports. While this could more than offset the costs mentioned in the first item, above (with protection then generating a net welfare benefit), the problem with such a policy is that it is a beggar-my-neighbour attempt to export unemployment, which invites retaliation. When partners do retaliate, employment is lost in export industries. Thus protection generates only the income losses in the above-mentioned item, with no clear expectation of an eventual gain in employment.[21] Indeed, the experience of the 1930s is widely regarded as evidence that successive rounds of protection and retaliation reduce aggregate employment. For this reason, protection is not a policy that is recommended for stimulating employment.

However, the Cambridge theorists contend that for the United Kingdom (U.K.), welfare gains *are* possible from protection.[22] How do they do this when there is such a strong traditional case against protection?[23]

The first traditional argument against protection is that it lowers real income by distorting resource allocation. In the CEPG model, such distortion is simply not allowed because it is assumed that protection does not affect domestic prices. Instead, prices are viewed as determined by costs, and costs are also assumed to be independent of protection.

This assumption about prices and costs is not only inconsistent with traditional trade models in which the domestic price of a domestically produced good rises by part or all of any protective tariff that may be levied. (For example, in Figure 1, the Canadian tariff D raised the price in Vancouver from P_S to P_V.) In addition, this assumption is also contradicted by the simplest form of observation. According to the CEPG theory, firms that are given the opportunity to raise their price behind a tariff, are assumed not to do so. This implies that costs and prices in the auto industry are not affected by auto protection. Since auto protection influences the intensity of Japanese competition, this theory implies that domestic auto costs and prices are not affected by the intensity of Japanese competition. Yet it was precisely this competition that was influential in putting a brake on auto wages and prices in the early 1980s.

The second argument against protection is that trading partners may retaliate in ways that damage exports, so that employment gains may not be realized after all. The CEPG disposes of this problem by claiming that partners would not retaliate because it is not in their interest to do so. This argument is a disarming variant of the one used by Europe on North America, in justifying the formation of the European Economic Community (EEC):

> True, this policy will directly and obviously damage your exports to us; but you will benefit from its indirect effects. Specifically, this policy will make us grow so much faster that our purchases of your exports will, on balance, rise rather than fall.

This line of argument, however, raises a whole host of difficult questions:

- Can it really be hoped that trading partners will acquiesce to highly restrictive British tariffs that would directly damage their exports because of a theory which promises them vast indirect benefits? — a theory which projects much more rapid growth in the U.K., in part because it assumes away the resource-allocation *damage* that would be done to U.K. income.
- How is one to credit the CEPG assumption that as the UK leaves the EEC, with its departure marked by a salvo of extremely high tariffs against EEC goods, the EEC would not retaliate in any way? Specifically, the CEPG assumes that Europe would not only abstain from answering in kind, but would, *in addition*, *continue* to provide U.K. exports with their present preferential access, rather than standard most-favoured-nation (MFN) treatment. (Note that standard MFN treatment would represent substantially increased barriers against U.K. exports by other EEC countries.)
- If it is allegedly in the U.K. interest to impose new tariffs (estimated to be in the 70–100 per cent range), why is it not in the interests of other European countries to do the same? This action need not be a retaliatory measure; why would not the Europeans *initiate* such a move? In other words, why should they not introduce the highly protective policy recommended by the CEPG that will supposedly give *them* the spectacular rates of growth that will make it in the interests of *their* trading partners to acquiesce without retaliation? Or, to put the same point in a different way, why should the British worry about European retaliation at all? Would this retaliation not benefit the U.K. for the same reason that U.K. protection is alleged to benefit Europe? To extend the

argument one step closer to absurdity, why, as long as full employment is not reached, would not increased protection by all countries lead us all to higher levels of prosperity?

One would be hard pressed to find more unrealistic assumptions than those used by the Cambridge group. Given the accepted effects of protection in generating domestic employment, it is not difficult to show that a welfare gain is possible if sufficiently unrealistic assumptions are made. The surprise is that the Cambridge assumptions are so transparently restrictive and unrealistic. Surely, one supposes, they could have done better.

This argument is an appropriate way to conclude this section. It is always possible to show that protection may *conceivably* increase welfare. The traditional terms-of-trade and infant-industry effects of protection are usually cited, but there are a number of other new arguments that have been described here. All are limited, however, because they examine the effects of only the Canadian tariff, but not of foreign tariffs.

We now turn from the new theories of the welfare effects of a tariff, to some broader new theories of the causes and implications of international trade.

New Theories of Trade

The Theory of Intra-industry Trade: The Importance of Economies of Scale

One of the most interesting aspects of differentiated product models like the one shown in Figure 3 is that these models help to explain an important observed phenomenon that is difficult to explain in traditional, perfectly competitive, homogenous good-trade models: that is, the two-way (cross-hauling) trade between countries in different brands of the same good produced with roughly the same factor proportions. This phenomenon, which has been referred to as "intra-industry (rather than interindustry) specialization", has now come to be known as 'intraindustry trade'. (Another explanation of two-way trade is that, within each country, a good may be produced in different locations, separated by transport costs. For example, Canada may export a good to the United States on the east coast, while importing it on the west coast; this pattern is rational if there is a high enough cost of shipping this good coast-to-coast within each country.)

This new analysis is now in the process of being married to the traditional theory of comparative advantage; this is accomplished by distinguishing between two kinds of trade: the traditional *inter-industry* trade based on comparative advantage, and *intra-industry* trade based on differentiated goods produced under economies of scale. (Figure 3 provides an example.) A country's broad industries of concentration are determined by a number of influences, such as its factor endowments (comparative advantage). But within many industries there are a number of differentiated products subject to economies of scale. Each country specializes in some of these, acquiring the others through trade. Much — but not necessarily all — of this 'differentiated product specialization' by a country will occur in its industries of comparative advantage where it has a positive export-import balance. Finally, the smaller the differences in factor endowments and the greater the economies of scale, the more prominent, *ceteris paribus*, will be intra-industry exchange, and the less discernible will be interindustry specialization.

Economies of Scale: How Trade Affects the Distribution of Income between Countries and within Countries

The uncertainty surrounding the distribution of income in a world of economies of scale has been emphasized by Melvin.[24] Using a traditional two-good trade model, he concluded that the introduction of economies of scale or, more precisely, sufficiently strong economies of scale to cause a 'bowed-in' production-possibilities curve raises the possibility that a small country may lose from trade. The reason is that the small country would completely specialize at a corner solution. Since its terms of trade would no longer be determined by a traditional tangency solution, anything can happen. In particular, Melvin emphasized the possibility that the terms of trade might turn sufficiently against the small country to leave it with a free-trade loss. This is a paradoxical result: economies of scale increase the total gains from trade going to both countries; yet because the distribution of these gains is now far less clear, one country *may* lose.

Recently J. Markusen and J. Melvin have been examining[25] whether this loss from trade by the small country, which Melvin had already showed to be possible,[26] is *likely*. They are now examining the robustness of the conclusion that both countries will gain from trade in a world of economies of scale. Their results so far suggest that this conclusion is indeed a robust one. It holds for a wide variety of assumptions, with only a relatively limited set generating a loss

from trade for the small country. This conclusion has also been confirmed by recent research by W. Ethier.[27] Whereas Melvin's original model[28] assumed economies of scale that were external to the firm, but internal to the domestic economy, Ethier considers economies of scale internal to the firm, and economies of scale external to the domestic economy. In these cases (which, in my view, cover most real-world possibilities), Ethier finds that Melvin's original paradoxical conclusion does not hold.

The Markusen/Melvin and Ethier findings are reassuring because they effectively remove the one concern about economies of scale, which, from all other points of view, can be judged beneficial because they increase the *collective* gains from specialization and trade. These gains are no longer the familiar triangles of the world of increasing costs, but are instead the large rectangular slices illustrated, for example, by the Wonnacotts.[29]

Moreover, economies of scale are also important when one turns from the question of how gains from trade are distributed *among countries*, to the traditional problems of how gains are distributed *among factors within countries*. Specifically, in the traditional Stolper-Samuelson world of differing factor endowments,[30] each nation benefited from trade; but *within* each nation, one factor benefited while the other lost. As differences in factor endowments are recognized to be less important than economies of scale in explaining trade, it becomes more and more likely that both factors will benefit, for two reasons: the leverage of factor-endowment differences that caused the loss to one factor is reduced, and the overall *collective* gains to both factors increase.

Empirical Evidence on the Cost to Canada of Canadian and Foreign Trade Barriers

Although the first empirical estimate, by J. Young,[31] of the costs to Canada of tariffs, examined the effect of only the Canadian tariff, studies since have examined the cost to Canada of *both* Canadian and foreign barriers. In a 1967 analysis that took account of economies of scale and imperfect competition, the Wonnacotts estimated that the cost to Canada of both Canadian and U.S. trade barriers could run as high as 10 per cent or slightly more of Canadian gross national product (GNP).[32] In his study, James Williams estimated this cost at 2.3 per cent of GNP,[33] a figure not inconsistent with the Wonnacotts', because he did not take into account economies of

scale. In 1975 I scaled down[34] the earlier estimate of the Wonnacotts to 7–9 per cent of GNP, to take account of the trade-liberalization gains that had been realized in the interim by the Auto Pact and the Kennedy Round. To do so, I built on Williams' 2.3 per cent estimate[35] and added to it an estimate of potential gains from economies of scale.

Recently, Cox and Harris[36] have addressed essentially the same question as the Wonnacotts. Taking into account differentiated products, imperfect competition and economies of scale, Cox and Harris have examined the effect on Canada of both Canadian and foreign trade barriers; in fact, they have estimated the effects of all foreign barriers, whereas the Wonnacotts considered only those of the United States.[37] The estimate given in the Cox and Harris study of the cost of protection to Canada is 8–10 per cent of GNP, a figure broadly consistent with the most recent Wonnacott estimate of 7–9 per cent. In addition, Cox and Harris[38] confirmed the Wonnacotts' view[39] that foreign trade barriers are a more serious problem for Canada than are Canadian barriers; both studies concluded that the cost to Canada of the Canadian tariff is less than half the cost of both Canadian and foreign tariffs.

The major criticism[40] of these large estimates — and, in particular, the Wonnacotts' estimates of gains — is that they are based on the assumption that had there been no trade barriers, Canadian productivity would be at the U.S. level. But, of course, for a number of reasons, Canadian productivity might not have matched that of the United States, and so the Canadian costs from protection are less. Note that this is an argument that the costs of protection may have been overestimated, and not that they do not exist. Moreover, the Wonnacotts have pointed out[41] that protection costs may not have been overestimated after all, since in sectors where U.S. productivity is damaged by special U.S. restraints that do not exist in Canada, productivity in Canada might be *higher* than in the United States. In short, if productivity in Canada were to be higher than that in the United States in some sectors and lower in others, the assumption of equal productivity under free trade may not be unreasonable after all.

Conclusions: Theoretical Research and Empirical Evidence on the Effects of Trade Barriers

The empirical studies of the costs of protection to Canada described in the section above yield an emerging picture that is quite different

from the one suggested by traditional trade theory. In the traditional approach, the cost of protection to a country tended to be underestimated for two reasons:

- Failure to take account of economies of scale and the assumption, instead, of rising costs. This meant that the empirical calculation of the burden of the tariff for various countries was based on the evaluation of two triangles, the production- and consumption-efficiency losses, which typically turned out to be a small part of GNP.
- Failure to take into account what has empirically turned out to be a more important burden, at least for Canada: the welfare cost of foreign tariffs.[42] There is no better example than the remarkable position taken by Harry Johnson[43] that the only economic benefit for a country from participating in tariff negotiations was to reduce its *own* tariff.[44]

In my view, there are real problems with analysing trade or commercial policy unless one explicitly takes account of both economies of scale and foreign tariffs. Moreover, when one recognizes these complications, one concludes that trade liberalization offers much larger benefits than traditionally supposed. Furthermore, when it is recognized that among highly developed countries, differences in factor endowments may be less important than economies of scale, a liberalization of trade need no longer create the traditional conflict among domestic factors. Indeed, all factor incomes may increase, rather than an increase in one being associated with a fall in another. These larger perceived gains from trade *and* their more favourable distributional configuration may help to explain why it has been possible to reduce world tariffs in the Kennedy and Tokyo Rounds.

At the same time, when one examines recent theoretical studies of the effect solely of *own* trade barriers (under the heroic assumption that partner's tariffs can be viewed as fixed, regardless of what the home country may do), then it is not as clear as it used to be that a country's own barriers will reduce its welfare. True, they will generate losses in consumption and production efficiency, and also, though this is not as well recognized, in economies of scale.[45] However, as we have seen, current research has unearthed a number of possible new ways in which a country may *benefit* from its own trade barriers, provided, of course, that it can escape foreign retaliation. These ways should now be added to the traditional concessions that own trade barriers may offer infant-industry benefits, improve terms of trade, or provide a beneficial offset to domestic distortions.

The view about own protection may therefore be shifting. A country's own tariff has always been viewed by economists as a misguided policy that is likely to reduce economic welfare and is, accordingly, undertaken for political reasons. (Producers vote heavily, but consumers vote lightly, if at all.) But there are now a number of new theories to explain how own tariff *may* indeed increase welfare. Thus the perceived cost of protection is shifting to the damage *foreign* tariffs may do to a country's exports.

Moreover, it has become very difficult for a country considering a new form of protection to ignore the foreign response. If a country is large, then any new trade barrier it imposes can hardly go unnoticed because of the damage it will do to its trading partners; the question, then, is how they will respond. On the other hand, if the country in question is small, then its trade barrier is more likely to be overlooked by its large trading partners. However, if large partner(s) *does/do* respond, then the damage to the small country is likely to be relatively severe.[46] Thus, for a large *or* small country, partner's response is likely to generate a large expected loss, with that loss, of course, reflecting both the probability of partner's response and the damage it would do. Moreover, to have much hope of being overlooked, it now seems that a country must be substantially smaller than Canada. It is true that on some occasions in the past, our protection has been overlooked; but we can no longer count on this.

In conclusion, we can still judge that our own trade barriers are likely to damage us. None the less, we have recently been discovering more and more very special circumstances in which they may be beneficial — assuming our barriers and foreign barriers are completely independent: that is, that there is no risk of foreign retaliation if we raise our barriers, nor any hope of using our trade barriers to negotiate any reciprocal trade concessions. Because this assumption does not hold, the key questions are: When a new commercial policy is being considered, what changes would it bring about both in our trade barriers and in foreign barriers? And what would be the welfare effects of each? Thus we are — or should be — moving from our earlier theoretical preoccupation with our own trade barriers to a more balanced assessment of both sets of barriers. Increasingly, too, we are recognizing that in the Canadian case, the cost to Canada of foreign trade barriers exceeds the cost to us of our own barriers.

Notes

1. R.J. Wonnacott, *Agressive U.S. Reciprocity Evaluated with a New Analytical Approach to Trade Conflicts.*

2. J. Melvin, "Domestic Exchange, Transportation Costs, and International Trade".
3. In a less simplified model, the assessment of cost becomes more complicated in a number of ways. For example, when we recognize that transport costs also exist between Seattle and Vancouver, then our estimate of the transport-cost loss would not be the cost of shipping this product from Toronto to Vancouver, but instead, the degree to which the Toronto-Vancouver transport cost exceeds the Seattle-Vancouver transport cost; that is, the '*excess* transport cost' because the good is shipped across Canada rather than imported. In addition, if some Toronto supply to Vancouver initially exists under free trade, then the cost of transporting these original shipments should not be included. Thus we are interested only in the '*additional* excess transport cost'.
4. R.J. Wonnacott and G. P. Wonnacott, *Free Trade Between the U.S. and Canada:The Potential Economic Effects*.
5. D. Cox and R. Harris, *Trade Liberalization and Industrial Organization: Some Estimates for Canada*.
6. In the traditional literature in which transportation costs t_i are assumed not to exist, the loss in production efficiency from a Canadian tariff, D, is area 4 + 5 + 6 in Figure 1, while the loss in consumption efficiency is area 3.
7. It may well be that any Canadian tariff 'sacrifice' would have had little effect on the foreign tariffs multilaterally negotiated in the Kennedy or Tokyo Rounds. *Bilaterally*, however, the sacrifice of Canadian protection may be very effective in reducing U.S. protection. See, for example, the Auto Pact precedent.
8. Under a flexible exchange rate, a Canadian tariff will reduce our exports *even if* it has no effect whatsoever on foreign tariffs. The reason is that the Canadian tariff, by reducing our imports, results in a higher-valued Canadian dollar and, consequently, reduced exports. (This is also true under a fixed rate, in the long run.)
9. Cox and Harris, *Trade Liberalization*.
10. Robert H. Porter, "Tariff Policies in a Small Open Spatial Economy".
11. J. Fried, "The intergenerational distribution of the gains from technical change and from international trade"; and David F. Burgess, "Protection, real wages, real incomes and foreign ownership".
12. Paul A. Samuelson, "An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money".
13. James Brander and Barbara Spencer, "Tariffs and the extraction of foreign monopoly rents under potential entry".
14. More precisely, 'guarantees that welfare will not increase'. Throughout the text, in the interests of simplicity, we replace this weak inequality with the corresponding strong equality.

15. Also compare Brander and Spencer with Porter, "Tariff Policies" (note 10, above).

16. For example, G. Basevi, "Domestic Demand and Ability to Export"; and R. Snape, "Trade Policy in the Presence of Economies of Scale and Product Variety".

17. Figure 3 follows the analysis of Douglas A. Curtis, "Trade Policy to Promote Entry with Scale Economies, Product Variety and Export Potential".

18. Other authors who use this Chamberlinian approach in their trade models include A. Dixit and V. Norman *Theory of International Trade*; E. Helpman, "International Trade in the Presence of Product Differentiation, Economies of Scale and Monopolistic Competition: A Chamberlin-Heckscher-Ohlin Model".

19. It is not this simple. An adjustment must be made for the loss in Canadian consumer surplus (net of duty collections by the Canadian treasury) that results because the tariff raises the price to Canadians of all *imported* brands of this good.

20. Curtis, "Trade Policy".

21. With flexible exchange rates, the employment benefits of protection will be compromised *even if* there is no retaliation. The protection-induced appreciation in the exchange rate means that the employment benefit from import substitution will be less than expected; moreover the exchange rate appreciation will reduce exports, and hence employment, in these sectors. (The same is true under pegged exchange rates, in the long run.)

22. For a more detailed analysis of this theory, see Brian Hindley and Eri Nicolaides, *Taking the New Protectionism Seriously*. Much of the discussion that follows is based on this work.

23. We now consider two important arguments against protection. But there is a third argument as well: devaluation is a superior policy. This argument proceeds as follows:

    Since devaluation = protection (i.e., an import tax) + an export subsidy,
    Therefore protection = devaluation + an export tax.

    Thus protection is judged inferior, because it is the same thing as devaluation, plus an export tax. (In trying to generate domestic employment, an export tax is clearly undesirable.)

24. J. Melvin, "Comments on the Theory of Customs Unions".

25. J. Markusen and J. Melvin, "The Gains from Trade Theorem with Increasing Returns to Scale".

26. Melvin, "Comments on the Theory of Customs Unions".

27. W. Ethier, "National and International Returns to Scale in the Modern Theory of International Trade".

28. Melvin, "Comments on the Theory of Customs Unions".
29. Wonnacott and Wonnacott, *Free Trade Between the U.S. and Canada*, Chapter 15.
30. W.F. Stolper and P.A. Samuelson, "Protection and Real Wages".
31. J. Young, *Canadian Commercial Policy*.
32. Wonnacott and Wonnacott, *Free Trade Betwen the U.S. and Canada*, Chapter 15.
33. J. Williams, *The Canadian-U.S. Tariff and Canadian Industry: a multi-sectoral analysis*.
34. R.J. Wonnacott, *Canada's Trade Options*.
35. Williams, *The Canadian-U.S. Tariff*.
36. Cox and Harris, *Trade Liberalization*.
37. Wonnacott and Wonnacott, *Free Trade Between the U.S. and Canada*.
38. Cox and Harris, *Trade Liberalization*, p. 23.
39. Wonnacott and Wonnacott, *Free Trade Between the U.S. and Canada*, p. 300.
40. See, for example, B.W. Wilkinson, "Canada-U.S. Free Trade and Some Options".
41. P. Wonnacott and R.J. Wonnacott, "Free Trade Between the United States and Canada: Fifteen Years Later", pp. 419–20.
42. An exception was the article by A.P. Lerner, "The Symmetry between Import and Export Taxes", which *did* emphasize the importance of foreign tariffs. However, this was disregarded in early empirical estimates of the costs of protection.
43. H. Johnson, "An Economic Theory of Protectionism, Tariff Bargaining and the Formation of Customs Unions".
44. The problems with this Johnson position, even on a very restricted and theoretical level, have been detailed by P. Wonnacott and R.J. Wonnacott, "Is Unilateral Tariff Reduction Preferable to a Customs Union: The Curious Case of the Missing Foreign Tariffs".
45. This loss is well understood when we are analysing increases in both domestic and foreign tariffs, since foreign tariffs reduce the home country's export volume, and hence its ability to exploit economies of scale. But some loss of economies of scale occurs even if only the home country's tariff is increased. The reason is that this tariff provides an invitation to domestic producers to retire from international competition into the new, more profitable, small-volume domestic market — an invitation which is more likely to be accepted because of the difficulties in exporting caused by the exchange-rate appreciation that tends to follow an increase in own tariff.
46. By definition, a small country is an international price taker. Thus its terms of trade will be subjected to essentially unmodified damage by any tariffs imposed by its large trading partner(s).

Bibliography

Basevi, G. "Domestic Demand and Ability to Export". *Journal of Political Economy* 78 (No. 2 1970), 330–37.

Brander, James; Spencer, Barbara. "Tariffs and the extraction of foreign monopoly rents under potential entry". *Canadian Journal of Economics* 14 (No. 3 1981): 371–89.

Burgess, David F. "Protection, real wages, real incomes and foreign ownership". *Canadian Journal of Economics* 13 (No. 4 1980): 594–614.

Cox, D. and Harris, R. *Trade Liberalization and Industrial Organizations: Some Estimates for Canada*. Discussion Paper No. 523. Kingston, Ont.: Institute for Economic Research, Queens University, 1983.

Curtis, Douglas. "Trade Policy to Promote Entry with Scale Economies, Product Variety and Export Potential". *Canadian Journal of Economics* 16 (No. 1 1983): 109–21.

Dixit, A. and Norman, V. *Theory of International Trade*. Cambridge Economic Handbooks. London (England): Cambridge University Press, 1980.

Ethier, W. "National and International Returns to Scale in the Modern Theory of International Trade". *American Economic Review* 72 (No. 3 1982): 389–405.

Finger, J.M.; Hall, H.K.; and Nelson, D.R. "The Political Economy of Administered Protection". *American Economic Review* 72 (No. 3 1982): 452–66.

Fried, J. "The intergenerational distribution of the gains from technical change and from international trade". *Canadian Journal of Economics* 13 (No. 1 1980): 65–81.

Helpman, E. "International Trade in the Presence of Product Differentiation, Economies of Scale and Monopolistic Competition: a Chamberlin-Heckscher-Ohlin Model". *Journal of International Economics* 11 (1981): 305–40.

Hindley, Brian and Nicolaides, Eri. *Taking the New Protectionism Seriously*. London: Trade Policy Research Centre, 1983.

Johnson, H. "An Economic Theory of Protectionism, Tariff Bargaining and the Formation of Customs Unions". *Journal of Political Economy* 73 (No. 3 1965): 256–83.

Lerner, A.P. "The Symmetry between Import and Export Taxes". *Economica* 3 (No. 11 1936): 306–13.

Markusen, J. and Melvin, J. *The Gains from Trade Theorem with Increasing Returns to Scale*. London: Department of Economics, University of Western Ontario, 1982.

Marvel, H. and Ray, E. "The Kennedy Round: Evidence on the Regulation of International Trade in the United States". *American Economic Review* 73 (No. 2 1983): 190–97.

Melvin, J. "Comments on the Theory of Customs Unions". *Manchester School of Economic and Social Studies* (June 1969): 161–68.

Melvin, J. "Domestic Exchange, Transportation Costs, and International Trade". University of Western Ontario, 1983. (unpublished)

Porter, Robert H. "Tariff Policies in a Small Open Spatial Economy". *Canadian Journal of Economics*. (forthcoming)

Samuelson, Paul A. "An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money". *Journal of Political Economy* 66 (No. 6 1958): 467–82.

Snape, Richard H. "Trade Policy in the Presence of Economies of Scale and Product Variety". *Economic Record* 53 (1977): 525–34.

Stolper, W.A. and Samuelson, P.A. "Protection and Real Wages". *Review of Economic Studies* (November 1981).

Wilkinson, Bruce W. "Canada-U.S. Free Trade and Some Options". *Canadian Public Policy* 8 (Supplement 1982): 428–39.

Williams, James R. *The Canadian-U.S. Tariff and Canadian Industry: a multisectional analysis*. Toronto: University of Toronto Press, 1978.

Wonnacott, Paul and Wonnacott, Ronald J. "Free Trade between the United States and Canada: Fifteen Years Later". *Canadian Public Policy* 8 (Supplement, 1982): 412–27.

Wonnacott, Paul, and Wonnacott, Ronald J. "Is Unilateral Tariff Reduction Preferable to a Customs Union? The Curious Case of the Missing Foreign Tariffs". *American Economic Review* 71 (No. 4 1981): 704–14.

Wonnacott, R.J. *Aggressive U.S. Reciprocity: Evaluated with a New Analytical Approach to Trade Conflicts*. Ottawa: Institute for Research on Public Policy, 1984.

Wonnacott, R.J. and Wonnacott, Gordon P. *Free Trade Between the U.S. and Canada: The Potential Economic Effects*. Economic Studies No. 129. Cambridge, Mass.: Harvard University Press, 1967.

Young, J. *Canadian Commercial Policy*. Ottawa: Royal Commission on Canada's Economic Prospects, 1958.

The Members of the Institute

Board of Directors

The Honourable John B. Aird, O.C., Q.C.
(Honorary Chairman)
Lieutenant Governor of Ontario, Toronto
The Honourable Robert L. Stanfield, P.C., Q.C. (Chairman), Ottawa
Louis A. Desrochers, Q.C. (Vice-Chairman)
McCuaig, Desrochers, Edmonton
Richard Cashin
President, Newfoundland Fishermen, Food and Allied Workers' Union, St. John's
Claude Castonguay, C.C.
Président et chef de la direction, La Corporation du Groupe La Laurentienne, Québec
Guy Chabot, c.a.
Raymond, Chabot, Martin & Paré
Montréal
Roger Charbonneau
Président du conseil d'administration
Banque Nationale de Paris (Canada)
Montréal
Dr. Rod Dobell
President, The Institute for Research on Public Policy
Victoria
Dr. Henry E. Duckworth, O.C.
President Emeritus
University of Winnipeg
Dr. Regis Duffy
President, Diagnostic Chemicals Ltd.
Charlottetown
Dr. James D. Fleck
Faculty of Management Studies
University of Toronto
Peter C. Godsoe
Vice Chairman, The Bank of Nova Scotia
Toronto
The Honourable William M. Hamilton, P.C., O.C., LL.D., Royal Commission on the Economic Union and Development Prospects for Canada, Vancouver
Grace Hartman
President Emeritus, CUPE, Willowdale
David Hennigar
Atlantic Regional Director
Burns Fry Limited, Halifax
T. E. Kierans
President, McLeod Young Weir Limited
Toronto
Roland J. Lutes, C.A.
Clarkson Gordon, Saint John
E.M. Mills
Director, Calgary Chamber of Commerce
Pierre Nadeau
Président du conseil, Tioxide Canada Inc.
Montréal
Dr. Tom Pepper
Pepper Consultants Ltd., Saskatoon
Guy Roberge, Q.C., Conseil
Clarkson, Tétrault, Ottawa
Claudine Sotiau
Ducros, Meilleur, Roy et associés ltée
Montréal

Secretary

Peter C. Dobell
Director, Parliamentary Centre for Foreign Affairs and Foreign Trade
Ottawa

Treasurer

Dr. Louis Vagianos
Executive Director, The Institute for Research on Public Policy, Halifax

Executive Committee

The Honourable Robert L. Stanfield (Chairman)
Louis A. Desrochers (Vice-Chairman)
Claude Castonguay
Peter C. Dobell
Rod Dobell
Roland J. Lutes
Louis Vagianos

Investment Committee

Tom Kierans (Chairman)
Marcel Cazavan
Peter C. Dobell
Peter C. Godsoe
Paul Little

Council of Trustees

Members at Large

Dr. Stefan Dupré (Chairman)
Department of Political Science, University of Toronto
Doris H. Anderson, O.C.
Toronto
Professor Kell Antoft
Director, Institute of Public Affairs, Dalhousie University, Halifax
Marie-Andrée Bertrand
Fédération des associations de professeurs des universités du Québec, Montréal
Roger Blais
Directeur, Centre d'innovation industrielle
Montréal

George Cooper, Q.C.
McInnes, Cooper and Robertson, Halifax
James S. Cowan, Q.C.
Partner
Stewart, MacKeen & Covert, Halifax
Dr. Wendy Dobson
Executive Director, C.D. Howe Institute
Toronto
Marc Eliesen
Deputy Minister, Energy & Mines
Government of Manitoba, Winnipeg
Emery Fanjoy
Secretary, Council of Maritime Premiers
Halifax
Dr. Allan K. Gillmore
Executive Director, Association of
Universities and Colleges of Canada
Ottawa
Dr. Donald Glendenning
President, Holland College, Charlottetown
Richard W. Johnston
President, Spencer Stuart & Associates
Toronto
Dr. Leon Katz, O.C.
Department of Physics, University of
Saskatchewan, Saskatoon
Dr. Leo Kristjanson
President, University of Saskatchewan
Saskatoon
Marilyn MacDonald
Halifax
R. Terrence Mactaggart
President, The Niagara Institute
Niagara-on-the Lake
Dr. John S. McCallum
Faculty of Administrative Studies
University of Manitoba, Winnipeg
Claude Morin
École nationale d'administration publique
Québec
Professor William A. W. Neilson
Faculty of Law, University of Victoria
Roderick C. Nolan, P.Eng.
Executive Vice-President, Neill &
Gunter Limited, Fredericton
Robert J. Olivero
United Nations Secretariat, New York
Maureen O'Neil
Co-ordinator, Status of Women Canada
Ottawa
Garnet T. Page, O.C.
Calgary
Dr. Gilles Paquet
Dean, Faculty of Administration
University of Ottawa
Dr. K. George Pedersen
President, University of British Columbia
Vancouver
Professor Marilyn L. Pilkington
Osgoode Hall Law School, Toronto
Dr. David W. Slater
Chairman, Economic Council of Canada
Ottawa
Dr. Stuart L. Smith
Chairman, Science Council of Canada
Ottawa
Eldon D. Thompson
President, Télésat, Vanier
Marc-Adélard Tremblay, O.C.
Département d'anthropologie
Université Laval, Québec
Dr. Israel Unger
Department of Chemistry, University of
New Brunswick, Fredericton
Philip Vineberg, O.C., Q.C.
Phillips & Vineberg, Montreal
Dr. Norman Wagner
President, University of Calgary
Ida Wasacase, C.M.
Saskatchewan Indian Cultural College
Saskatoon
Dr. R. Sherman Weaver
Executive Director, Alberta Environmental
Research Centre, Vegreville
Professor Paul Weiler
Harvard Law School, Cambridge, Mass.
Dr. Blossom Wigdor
Director, Program in Gerontology
University of Toronto
The Very Rev. Dr. Lois Wilson, B.A., B.D.,
D.D. Co-Director
Ecumenical Forum of Canada, Toronto

Government Representatives

Joseph H. Clarke, Nova Scotia
Michael Decter, Manitoba
Jim Dinning, Alberta
Greg Fyffe, Saskatchewan
Colin Heartwell, Yukon
Robert A. Nuttbrown, Prince Edward Island
John H. Parker, Northwest Territories
Jean-K. Samson, Quebec
Gordon S. Smith, Canada
Norman Spector, British Columbia
Barry Toole, New Brunswick
John Tory, Ontario
David Vardy, Newfoundland

Institute Management

Rod Dobell	President
Louis Vagianos	Executive Director
Gordon Robertson	Fellow-in-Residence
John M. Curtis	Director, International Economics Program
Gérald d'Amboise	Director, Small- and Medium-Sized Business Program
Barbara L. Hodgins	Director, Western Resources Program
Barry Lesser	Director, Regional Employment Opportunities Program
Louis Vagianos	Acting Director, Technology and Society Program
Parker Staples	Director, Financial Services
Donald Wilson	Director, Communications
Tom Kent	Editor, *Policy Options Politiques*

The Institute for Research on Public Policy/L'Institut de recherches politiques

Publications Available*

July 1984

Leroy O. Stone & Claude Marceau	*Canadian Population Trends and Public Policy Through the 1980s.* 1977 $4.00
Raymond Breton	*The Canadian Condition: A Guide to Research in Public Policy.* 1977 $2.95
Raymond Breton	*Une orientation de la recherche politique dans le contexte canadien.* 1977 $2.95
J.W. Rowley & W.T. Stanbury (eds.)	*Competition Policy in Canada: Stage II, Bill C-13.* 1978 $12.95
W.E. Cundiff	*Nodule Shock? Seabed Mining and the Future of the Canadian Nickel Industry.* 1978 $3.00
C.F. Smart & W.T. Stanbury (eds.)	*Studies on Crisis Management.* 1978 $9.95
W.T. Stanbury (ed.)	*Studies on Regulation in Canada.* 1978 $9.95
Michael Hudson	*Canada in the New Monetary Order: Borrow? Devalue? Restructure!* 1978 $6.95
Robert A. Russel	*The Electronic Briefcase: The Office of the Future.* 1978 $3.00
C.C. Gotlieb	*Computers in the Home: What They Can Do for Us—And to Us.* 1978 $3.00
David K. Foot (ed.)	*Public Employment and Compensation in Canada: Myths and Realities.* 1978 $10.95
Raymond Breton & Gail Grant Akian	*Urban Institutions and People of Indian Ancestry: Suggestions for Research.* 1979 $3.00
K.A.J. Hay	*Friends or Acquaintances? Canada and Japan's Other Trading Partners in the Early 1980s.* 1979 $3.00

---

* **Order Address:** The Institute for Research on Public Policy
P.O. Box 3670
Halifax, Nova Scotia
B3J 3K6

Thomas H. Atkinson	*Trends in Life Satisfaction Among Canadians, 1968–1977.* 1979 $3.00
W.E. Cundiff & Mado Reid (eds.)	*Issues in Canadian/U.S. Transborder Computer Data Flows.* 1979 $6.50
David K. Foot (ed.)	*Public Employment in Canada: Statistical Series.* 1979 $15.00
Meyer W. Bucovetsky (ed.)	*Studies in Public Employment and Compensation in Canada.* 1979 $14.95
Richard French & André Béliveau	*The RCMP and the Management of National Security.* 1979 $6.95
Richard French & André Béliveau	*La GRC et la gestion de la sécurité nationale.* 1979 $6.95
Fred Thompson & W.T. Stanbury	*The Political Economy of Interest Groups in the Legislative Process in Canada.* 1979 $3.00
G. Bruce Doern & Allan M. Maslove (eds.)	*The Public Evaluation of Government Spending.* 1979 $10.95
Leroy O. Stone & Michael J. MacLean	*Future Income Prospects for Canada's Senior Citizens.* 1979 $7.95
Richard M. Bird	*The Growth of Public Employment in Canada.* 1979 $12.95
Richard Price (ed.)	*The Spirit of the Alberta Indian Treaties.* 1979 $8.95
Richard J. Schultz	*Federalism and the Regulatory Process.* 1979 $1.50
Richard J. Schultz	*Le fédéralisme et le processus de réglementation.* 1979 $1.50
Lionel D. Feldman & Katherine A. Graham	*Bargaining for Cities, Municipalities and Intergovernmental Relations: An Assessment.* 1979 $10.95
Elliot J. Feldman & Neil Nevitte (eds.)	*The Future of North America: Canada, the United States, and Quebec Nationalism.* 1979 $7.95
Pierre Sormany	*Les micro-esclaves : vers une bio-industrie canadienne.* 1979 $3.00
Maximo Halty-Carrere	*Technological Development Strategies for Developing Countries: A Review for Policy Makers.* 1979 $12.95

David R. Protheroe	*Imports and Politics: Trade Decision Making in Canada, 1968–1979.* 1980 $8.95
Zavis P. Zeman & David Hoffman (eds.)	*The Dynamics of the Technological Leadership of the World.* 1980 $3.00
G. Bruce Doern	*Government Intervention in the Canadian Nuclear Industry.* 1980 $8.95
G. Bruce Doern & Robert W. Morrison (eds.)	*Canadian Nuclear Policies.* 1980 $14.95
Russell Wilkins	*Health States in Canada, 1926–1976.* 1980 $3.00
Russell Wilkins	*L'état de santé au Canada, 1926–1976.* 1980 $3.00
Allan M. Maslove & Gene Swimmer	*Wage Controls in Canada: 1975–78: A Study of Public Decision Making.* 1980 $11.95
T. Gregory Kane	*Consumers and the Regulators: Intervention in the Federal Regulatory Process.* 1980 $10.95
Réjean Lachapelle & Jacques Henripin	*La situation démolinguistique au Canada: évolution passée et prospective.* 1980 $24.95
Albert Breton & Anthony Scott	*The Design of Federations.* 1980 $6.95
A.R. Bailey & D.G. Hull	*The Way Out: A More Revenue-Dependent Public Sector and How It Might Revitalize the Process of Governing.* 1980 $6.95
David R. Harvey	*Christmas Turkey or Prairie Vulture? An Economic Analysis of the Crow's Nest Pass Grain Rates.* 1980 $10.95
Donald G. Cartwright	*Official Language Populations in Canada: Patterns and Contacts.* 1980 $4.95
Richard M. Bird	*Taxing Corporations.* 1980 $6.95
Leroy O. Stone & Susan Fletcher	*A Profile of Canada's Older Population.* 1980 $7.95
Peter N. Nemetz (ed.)	*Resource Policy: International Perspectives.* 1980 $18.95
Keith A.J. Hay (ed.)	*Canadian Perspectives on Economic Relations With Japan.* 1980 $18.95

Dhiru Patel	*Dealing With Interracial Conflict: Policy Alternatives.* 1980 $5.95
Raymond Breton & Gail Grant	*La langue de travail au Québec : synthèse de la recherche sur la rencontre de deux langues.* 1981 $10.95
Diane Vanasse	*L'évolution de la population scolaire du Québec.* 1981 $12.95
David M. Cameron (ed.)	*Regionalism and Supranationalism: Challenges and Alternatives to the Nation-State in Canada and Europe.* 1981 $9.95
Heather Menzies	*Women and the Chip: Case Studies of the Effects of Informatics on Employment in Canada.* 1981 $8.95
H.V. Kroeker (ed.)	*Sovereign People or Sovereign Governments.* 1981 $12.95
Peter Aucoin (ed.)	*The Politics and Management of Restraint in Government.* 1981 $17.95
Nicole S. Morgan	*Nowhere to Go? Possible Consequences of the Demographic Imbalance in Decision-Making Groups of the Federal Public Service.* 1981 $8.95
Nicole S. Morgan	*Où aller? Les conséquences prévisibles des déséquilibres démographiques chez les groupes de décision de la fonction publique fédérale.* 1981 $8.95
Raymond Breton, Jeffrey G. Reitz & Victor F. Valentine	*Les frontières culturelles et la cohésion du Canada.* 1981 $18.95
Peter N. Nemetz (ed.)	*Energy Crisis: Policy Response.* 1981 $18.95
James Gillies	*Where Business Fails.* 1981 $9.95
Robert A. Russel	*Office Automation: Key to the Information Society.* 1981 $3.00
Allan Tupper & G. Bruce Doern (eds.)	*Public Corporations and Public Policy in Canada.* 1981 $16.95
Réjean Lachapelle & Jacques Henripin	*The Demolinguistic Situation in Canada: Past Trends and Future Prospects.* 1982 $24.95
Irving Brecher	*Canada's Competition Policy Revisited: Some New Thoughts on an Old Story.* 1982 $3.00

Ian McAllister	*Regional Development and the European Community: A Canadian Perspective.* 1982 $13.95
Donald J. Daly	*Canada in an Uncertain World Economic Environment.* 1982 $3.00
W.T. Stanbury & Fred Thompson	*Regulatory Reform in Canada.* 1982 $7.95
Robert J. Buchan, C. Christopher Johnston, T. Gregory Kane, Barry Lesser, Richard J. Schultz & W.T. Stanbury	*Telecommunications Regulation and the Constitution.* 1982 $18.95
Rodney de C. Grey	*United States Trade Policy Legislation: A Canadian View.* 1982 $7.95
John Quinn & Philip Slayton (eds.)	*Non-Tariff Barriers After the Tokyo Round.* 1982 $17.95
Stanley M. Beck & Ivan Bernier (eds.)	*Canada and the New Constitution: The Unfinished Agenda.* 2 vols. 1982 $10.95
R. Brian Woodrow & Kenneth B. Woodside (eds.)	*The Introduction of Pay-TV in Canada: Issues and Implications.* 1982 $14.95
E.P. Weeks & L. Mazany	*The Future of the Atlantic Fisheries.* 1983 $5.00
Douglas D. Purvis (ed.), assisted by Frances Chambers	*The Canadian Balance of Payments: Perspectives and Policy Issues.* 1983 $24.95
Roy A. Matthews	*Canada and the "Little Dragons": An Analysis of Economic Developments in Hong Kong, Taiwan, South Korea and the Challenge/Opportunity They Present for Canadian Interests in the 1980s.* 1983 $11.95
Charles F. Doran	*Economic Interdependence, Autonomy, and Canadian/American Relations.* 1983 $5.00
Charles Pearson & Gerry Salembier	*Trade, Employment, and Adjustment.* 1983 $5.00
Steven Globerman	*Cultural Regulation in Canada.* 1983 $11.95
F.R. Flatters & R.G. Lipsey	*Common Ground for the Canadian Common Market.* 1983 $5.00

Frank Bunn, assisted by U. Domb, D. Huntley, H. Mills, H. Silverstein	*Oceans from Space: Towards the Management of Our Coastal Zones.* 1983 $5.00
C.D. Shearing & P.C. Stenning	*Private Security and Private Justice: The Challenge of the 80s.* 1983 $5.00
Jacob Finkelman & Shirley B. Goldenberg	*Collective Bargaining in the Public Service: The Federal Experience in Canada.* 2 vols. 1983 $29.95
Gail Grant	*The Concrete Reserve: Corporate Programs for Indians in the Urban Work Place.* 1983 $5.00
Roy George	*Targeting High-Growth Industry.* 1983 $5.00
Owen Adams & Russell Wilkins	*Healthfulness of Life.* 1984 $5.00
Yoshi Tsurumi with Rebecca R. Tsurumi	*Sogoshosha: Engines of Export-Based Growth* (Revised Edition). 1984 $10.95
Raymond Breton & Gail Grant	*The Dynamics of Government Programs for Urban Indians in the Prairie Provinces.* 1984 $19.95
Frank Stone	*Canada, The GATT and the International Trade System.* 1984 $15.00
Pierre Sauvé	*Private Bank Lending and Developing-Country Debt.* 1984 $10.00
Mark Thompson & Gene Swimmer	*Conflict or Compromise: The Future of Public Sector Industrial Relations.* 1984 $15.00
Samuel Wex	*Instead of FIRA: Autonomy for Canadian Subsidiaries.* 1984 $8.00
R.J. Wonnacott	*Selected New Developments in International Trade Theory.* 1984 $7.00
R.J. Wonnacott	*Aggressive US Reciprocity Evaluated with a New Analytical Approach to Trade Conflicts.* 1984 $8.00
Richard W. Wright	*Japanese Business in Canada: The Elusive Alliance.* 1984 $12.00
Paul K. Gorecki & W.T. Stanbury	*The Objectives of Canadian Competition Policy, 1888–1983.* 1984 $15.00

The Institute for Research on Public Policy / L'Institut de recherches politiques

Créé en 1972, l'Institut de recherches politiques est un organisme national dont l'indépendance et l'autonomie sont assurés grâce a des revenus provenant d'un fonds de dotation auquel souscrivent les gouvernements fédéral et provinciaux ainsi que le secteur privé. L'Institut obtient en outre des subventions et des contrats des gouvernements, des compagnies et des fondations afin de réaliser certains projets de recherche.

La raison d'être de l'Institut est triple :

- Servir de catalyseur au sein de la collectivité nationale en favorisant un débat public éclairé sur les principales questions d'intérêt général.
- Stimuler la participation de tous les éléments de la collectivité nationale à l'élaboration de la politique d'État.
- Trouver des solutions réalisables aux importants problèmes d'ordre politique afin de contribuer à l'élaboration d'une saine politique d'État.

Un Conseil d'administration, chargé de la décision, et une Commission de direction, responsable d'éclairer le Conseil sur l'orientation de la recherche, assurent la direction de l'Institut. L'administration courante des politiques, des programmes et du personnel relève du président.

L'Institut fonctionne de manière décentralisée et retient les services de chercheurs en divers points du Canada, s'assurant ainsi que toutes les régions contribuent aux recherches.

L'Institut cherche à favoriser, dans la mesure du possible, la compréhension et la discussion publiques des questions d'envergure nationale, controversées ou non. Il publie les conclusions de ses recherches avec clarté et impartialité. Les recommandations ou les conclusions énoncées dans les publications de l'Institut sont strictement celles de l'auteur et n'engagent aucunement le conseil d'administration, la commission de direction ou les bailleurs de fonds.

Le président assume la responsabilité ultime de publier un manuscrit au nom de l'Institut. Il jouit à cette fin des conseils du personnel de l'Institut et de critiques de l'extérieur quant à l'exactitude et l'objectivité du texte. Ne sont publiés que les textes qui traitent de façon compétente d'un sujet digne de la réflexion du public.

Les publications de l'Institut paraissent dans la langue de l'auteur et sont accompagnées d'un abrégé dans les langues officielles du Canada.